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CHRISTIAN SOCIAL THOUGHT IN FUTURE PERSPECTIVE

No. 5 December 1970

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Theology and Technology - Papers from the 1970 Exploratory Conference on Technology and the Future of Man and Society

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These papers are circulated for the information of participants in the ecumenical enquiry on "The Future of Man and Society in a World of Science-Based Technology". Comments are welcome.

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EDITORIAL NOTE

The discussion of "Theological Issues for the Church" at the World Council's Exploratory Conference on Technology and the Future of Man and Society was the most controversial and, to some, disappointing part of that meeting. In part this reflected the familiar ecumenical problem of how to relate theology to social problems, only more so. Some of the scientists and technologists were frustrated by the inability of the theologians present to offer immediate theological insights relevant to their problem. They apparently thought of the Church as the guardian of a certain treasury of truths which are dispensed as critical needs arise. Others clearly did not expect immediate theological or ethical insights, suspecting perhaps that the theologians had not yet given very considerable attention to their questions.

The theologians however do not lack for interesting ideas as the following papers and statements presented to the Conference show. But these theologians would be the first to admit that they have only begun to understand the moral and spiritual predicaments posed by modern science and technology and, like the Conference generally, they seemed well aware that these issues will have to be attacked experimentally and pragmatically rather than in terms of absolute or sweeping general principles. Most questions will be relative; to what extent? By what means? At what cost? In what order or priority? Yet, the problem of fundamental assumptions remains and if the theologians were themselves disappointed at this first encounter it was perhaps because they could not find more effective ways to help the scientists and technologists make a more searching examination of their own presuppositions.

The paper by Prof. Charles West (Princeton Theological Seminary, U.S.A.) on "Technology and Change" was originally presented to a meeting of the member churches of the World Council in the U.S.A., in April 1970. The papers by Prof. Wolf-Dieter Marsch (University of Münster, Germany) on "Technology and the Future" and by Prof. Raymond Panikkar, a Roman Catholic theologian from India, on "The Mirage of the Future" were presented to the Conference. From the intense debate in plenary we have selected four statements by Prof. André Dumas (Protestant Theological Faculty, Paris), Prof. Harvey Cox (Harvard Divinity School, U.S.A.), Metropolitan Ilya Shioloshvili (Georgian Orthodox Church, U.S.S.R.), and Prof. Keith Bridston (Lutheran Seminary of the Pacific, Berkeley, U.S.A.). They show the great variety of opinion within the ranks for the theologians.

Finally we include a few of the comments on this theological debate published in the secular and religious press after the Conference.

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I

Theology and Technological Change

Prof. Charles West

On one fact nearly all the analyses of the trends of modern society agree: the structures of order, on which man has depended throughout the millenia to give his existence eternal meaning and direction, no longer control the reality in which we live. To put it in simple terms: God, as the symbol in human understanding of the unchanging transcendent being who is the measure and the goal of all that happens in this transient temporal realm, the ultimate reality in which all our partial realities participate, is no longer there. We have done with this hypothesis as an explanation of our world. His place is taken by man and man's activity. To be sure the opinion on this point is not quite unanimous. There is in theological ethics a certain revival of the medieval realist tradition. The Pastoral Constitution on the Church in the Modern World of Vatican II does speak in one place of "the permanent binding force of universal natural law and its all-embracing principles" (Par. 79). Many cultures and races are seeking in their traditions for a mystical depth of ultimacy which will be the ground of their self-identity. Religious absolutes continue to appeal to threatened social groups and to rootless people. But out of this source comes very little analysis of modern technology and few programmes of relevant action. They constitute warnings to Christian theology of a source of insight and a base of operations which are not available in speaking to a world of technological change.

We must start then with change as the basic fact. More than this, we must start with the change that man is making, with human power, with human hopes and their consequences. What is the pattern of this change? How does man understand and project himself upon the future? How does the God, the very particular God whom we meet in the Biblical history, interact with man there?

Let me begin with the first half of this question. How in a technological age does man project himself upon the future? I would suggest, without any claim to be exhaustive, that there are three major patterns.

The first is evolutionary, although its basic pattern predates the invention of evolutionary theory. Its proponents affirm without reservation, as a premise filled with hope, that man the planner, endowed with the technological reason that reaches out to remold his human and physical environment and to re-shape his own nature, is the highest stage of development on this earth so far, and the key to its future. They may say with Karl Marx that man proves himself as a human being in his work upon the objective world until "he sees his own reflection in the world which he has constructed". Or, in the words of Julian Huxley: "In the light of evolutionary biology man can now see himself as the sole agent of further evolutionary advance. He finds himself in the unexpected position of business manager for the cosmic process of evolution. He needs no longer regard himself as insignificant in relation to the cosmos. He is intensely significant. In his person he has acquired meaning, for he is constantly creating new meanings."

Man himself, then, is inherently universal. He is the deciding centre of the universe into which physical nature is drawn and by which it is remolded. The acceleration of technological knowledge and control in the past generation only serves to underline this basic faith which goes back to the philosophers of the Enlightenment, and to reinforce the dimension of unending self-development which Marx in his way and the social-Darwinists in theirs contributed to this faith in the nineteenth century.

Most of proponents of this form of humanism would recognize that this is a dangerous position for man to be in. Few would share the mystic confidence of Teilhard de Chardin that in the entire process of evolution moving upward to the supra-human harmony of all things in personal love, the spirit of Christ is at work. For most of them man stands exposed with his power, confronted with choices which may lead him to destruction if he makes them irrationally. Planning man has the awful responsibility for choosing his values, for determinin the form of human life he will have in the future, and for choosing one direction over another for his technology in the light of these basic decisions. Even human nature is a given. But in spite of this danger there is a confidence in this point of view. It is expressed in the appeal to the human valuing reason which all its proponents make. Man is to be the business manager for the cosmic process of evolution. The concept reminds one of the Biblical steward and the question: will he be found faithful when his lord returns? Underlying the brave assertions of human power and autonomy and all the warnings against irresponsibility is faith that somehow the process itself is benevolent even if man fails; that this process is expressed in human reason over against the baser desires and instincts of man that are less than truly human. This faith, though it decks itself out in the most radical assertions about change, is the modern form of traditional conservatism. It is faith in the continuity of existing structures of planning and power, their modification and their perfection, as part of the union of man with the cosmos.

It is this faith which the second pattern of future projection does not share. "We live in a revolutionary situation", said Jürgen Moltmann speaking to the students at Turku two years ago. He defined revolution as "a transformation in the foundations of a system - whether of economics, of politics, of morality or of religion". The starting point of this way of working toward the future is not man the planner hoping by technological reason to control events so that the world does not fall apart, but man alienated, man critical of the dehumanizing tendencies built into the very structure of technological society, seeking liberation by changing the basic relations of power. This revolutionary as we know need not be a theologian. He can believe as firmly as Julian Huxley that man must shoulder responsibility for his own destiny and make his own future. But for him the first act of human self-assertion is not planning but revolt. Scientific reason guiding action takes the form of projecting that human possibility which judges and condemns existing structures and trends, and of the strategy and tactics which transform the foundations of existing systems to realize that possibility.

"In the student protest movements", writes Moltmann, "we have seen a revolt of man's political reason against its enslavement by merely technical thinking, of his moral reason against the exclusive use of 'value free' instrumental reason. The sciences are being recalled to their truly human possibilities and promises. They are to be enlisted for the realization of humanity. They can no longer be the slaves of a society which misses its genuinely human opportunities. Thus every science is questioned about its socio-political function."

The revolutionary humanist then starts with one premise the same as the technologist: history is a process of the self-emancipation of man. But his other premise is basically different. Where the technologist speaks of development, he speaks of liberation. Where the technologist speaks of planning he speaks of political confrontation. Where the technologist appeals to the common reason of mankind, he discerns the ideological bias in all reason, including the "scientific" and experimental. Where the technologist assumes that the development of controlling knowledge over man's nature and environment is one process and the ethical decisions as to how this knowledge shall be used is a second, the revolutionary finds a dehumanizing bias in the basic process of this research, in the sources of its financing, in the determination of its direction and the conclusions it reaches. Nowhere is this suspicion sharper than in questions of population and its control. But it is reflected in different approaches to problems of pollution and ecological control as well, and in the utter failure of such scientists as worked on The Year 2000, and the best minds of the new left in this country or in the Third World, to communicate with each other.

The revolutionary humanist also would recognize that man is in a dangerous and exposed condition. Few of them today would share Karl Marx's, or even Lenin's, utter certainty that the liberation of man is predetermined, even if the revolution has to be engineered. There is more open desperation on the left today than among liberals or on the right, a fact which we need only read the newspaper to discern. This should not surprise us as much as it seems to. Those who start with the premise of alienation have only their hope to live by. It is only natural that they thrash out against powers which in their evil dynamic threaten to extinguish even this. But underlying even this active despair is the humanist premise still: that man is a self-liberating animal, who achieves his humanity by struggling against the dehumanizing forces in nature and in society, and whose self-transformation in this process is his destiny.

Both of these forms of humanism have recently turned to theology in a fresh way. The technologists are asking the Church and its thinkers to help them define the goals of their effort, and to co-determine guidelines for the application of their newfound power. They are asking for a definition of what is human so that moral suasion will reinforce technological reason in giving order to what is now a dangerously open field of experimentation. The revolutionaries are asking that their hope be subsidized at a moment when it threatens to go bankrupt. They want a confidence that in fact the way of transformation, of liberation in the foundations of our systems, is the direction of our future. Theologies have arisen which are trying seriously to operate within these differing premises. One might mention the work which Paul Ramsey has done on nuclear armaments and just-war theory and more recently in medical ethics on the one side, and the theology of Richard Shaull and more recently of Rubem Alves on the other. But before we assume the debts and continue the enterprise of either of these alternatives, I would suggest we look carefully at a third.

Michael Harrington has labelled ours the "accidental century". In a different way Victor Ferkiss, in his thorough study of "technological man" makes the same point. There has been a revolution - a veritable explosion - in the sphere of technological knowledge and power, and in ways of life as a consequence. But this revolution has been diffuse, not coordinated. It has

created disorder and resulted in decadence because it has thrown up no co-ordinating centre of responsible decision-making. A technological elite establishment engineering everything for the reinforcement of its own power and status is a convenient myth for revolutionaries, but it does not exist. In Ferkiss' picture we have not a unified but an ecclectic power structure, a multiplication of "estates" something like those of the Middle Ages, each defining its sphere of influence, and each jockeying for position in a world where none is secure. The problem of technological society is, to use a biological image, a process of decay accelerated by the release of immense amounts of energy connected with competing centres that neutralize and even break down each other. Capitalism, to return to Harrington's analysis, is the victim of its own accomplishments. The stimulation of private profit and the free centres of action which built upon modern technology cannot control an inflationary economy which neglects the public sector. International competition that spurred the development of nuclear research cannot control its tendency to exceed any rational bounds in its capacity to destroy mankind. Nor are the poor exempt from this disintegration. Far from being unified by their increasing misery and dispossession they are fragmented into competing groups with different and often competing goals. Their revolts are stirred by small immediate disturbances rather than being part of an imaginative restructuring of the whole of society. Their satisfactions are in participatio on a lower level, in the fragmentary goods of a consumer society.

The discontent of both the poor and the rich is still present. Harrington does not share the illusion of Herbert Marcuse that the powers that be have woven a seemless web of engineered consent around themselves and their victims. But there is no positive or negative focus for this discontent. The enemy is no clear structure or group of persons. He is an evasive, amorphous mixture of influences that frustrate effective action for desirable goals. Positively man must be remade, in the opinion of Ferkiss. He must become frankly technological "in control of his own development within the context of a meaningful philosophy of the role of technology in human evolution". But such a man does not exist, nor is he likely to arise simply because he is needed. "After God died", writes Harrington, "Man, who was supposed to replace him, grew sick of himself. This resulted in a crisis of belief and disbelief which made the twentieth century spiritually empty". At the very time when man has succeeded beyond his wildest dreams in making nature serve his human purpose, he has lost confidence in his own ability to realize justice. He no longer believes in the immanent forces in his own nature which will move him to use his new freedom for good whether now or after the revolution.

This being so, where does one look now for meaning and hope? Both Ferkiss and Harrington call on scientists and ethicists (including, presumably Christian ones, and hence all of us) boldly to project utopias, plans which may be guides to action for man bringing all of nature into the human drama. These utopias will at least serve the purpose of breaking the habit of private thinking and action which has created the chaos we are now in. But both men beg the question - and here the theologian must take hold because it is a question of faith - where, beyond the rational appeal of the utopia to the reader of such books as theirs, lies the power to realize the humanizing plan despite the forces of human nature itself? Harrington chides Dostoievsky for believing in a Christ whose love was too weak to survive in a world of complex organization and powers. But the realism of Dostoievsky is a question to Harrington and his fellows, both technocratic and revolutionar Where in the process of modern technological decadence does man confront a

reality which speaks to him from outside his own management, his own projections, of the future, and is able to redirect him?

To the question thus posed I would like to suggest four ideas which will not be answers but may indicate the direction in which answers may be sought, such as will result in a collaboration between theologians and scientists in the business of realizing the future, or, perhaps more important, in a collaboration between faith and science in the breast of each technological man.

First. Let me grasp one nettle firmly, at the risk of being highly controversial. Those analysts are right who blame or praise the Biblical message and its influence upon the history of Christendom for the secularization of the physical world and the drive to explore its workings and make them serve human purposes which underlies modern science and technology. The Bible does not operate with the concept 'nature' as we have come to understand it philosophically in recent centuries, in dependence on the classical Greek view of an order or structure governed by immutable laws. There is no single word for the non-human environment of man in the Old Testament. There is not even a single equivalent for the Greek word soma which we translate 'body' and distinguish in unbiblical fashion from 'soul'. In the New Testament the Greek word 'physis' does occur, but absolutely no metaphysical conclusions can be drawn from its use. It indicates simply the character of a person or thing whatever it might be, never in any sense the combination of matter and form moving according to indwelling laws.

There is, of course, the concept 'creation' in the Bible. But the very word indicates its relational character. It is that which God has made and which to the eye of faith shows forth his character and reflects his action. But it is the God of the covenant who is thus reflected. Despite the many efforts to build a whole concept of natural revelation on Romans 1:20, one cannot read the character of God from the scientific study of physical nature. Creation is rather that combination of all persons and things which have resulted from the act of God, which suffer and decay together until set free by the power of Christ (Romans 8:22), and which receives the good news of Christ's resurrection (Colossians 1:20). The emphasis is on created people in their relation with God, in their history into which the world of physical things is drawn.

Nature is therefore not an object to be understood in its own structure and according to its own laws. It is the setting for the history of God with his people and it participates in that history as man subdues it and brings forth its fruits, as he was clearly commanded and empowered to do. Even the names of things in "nature" are the result of human operation on them, as Genesis chapter 2 illustrates, and therefore of their relation to man. Already in the Biblical history man is responsible not to nature, but to God for the rest of God's creation. One may well speculate, in the light of what man seems tempted to do with this responsibility, whether it might not have been better, as Edward B. Fiske asked recently in the New York Times, for the followers of Yaweh to have been conquered by Baal worship in ancient Palestine. But they were not, and we their descendants cannot, even if we will, reverse the consequences.

If we have the courage of our faith therefore, we have reason to rejoice that modern natural science itself has come to realize in recent years that the knowledge it obtains about "nature" is functional, not descriptive, in its basic character. It defines the relation between the experimenter and the phenomenon being investigated, through the conditions of the experiment and its instruments. It is a form of power over phenomena qualified by this relation. One may move from this basic insight in two directions. On the one hand one may say, with the Dutch philosopher van Peursen, that "laws have to be regarded as advice on how to proceed in matters of research and deduction They present no images of reality but lines of policy". Or, with Michael Polanyi one may speak of the "heuristic vision", the act of creative imaginatio with which the scientist perceives order in the phenomena under his investigati to which vision he then commits himself in an attitude analogous to faith. In either case the relation of the scientist to his phenomena, his laws, or his vision, is part of a broader relation to his fellow man and to God. The revolutionaries are right in their suspicion of a value-free pursuit of scientific and technological knowledge. The basic decisions about the direction of scientific research in our times have been social decisions, governed by the desire to achieve some goals and not others. We have already given examples. But this situation poses the positive responsibility of the scientist and gives him his opportunity. His is, in a sense, a liturgical task, to suggest the quality of relations between man and man which a certain use of physical nature might make possible and which might reflect the covenant purposes of God.

Second, there is suggested in the above, a view of knowledge itself which must be made explicit. There is, for a Christian, no such thing as purely objective descriptive information about physical reality or technologica possibilities apart from some relation to them. The investigation of such fields as nuclear physics, biogenetics or ecology, is not one process, and the application of the results another. Knowledge itself is determined by the questions asked, and the problems to be solved or the goals to be achieved. The dependence of computer information on the programmed questions and data is only the most obvious example, in the purely technological sphere. But the insight comes from the nature of revelation itself, and the character of the God who made himself known in the Biblical history.

Revelation is never objective data. It is not primarily knowledge about something. It is the disclosing and the knowing which happens in a relationship, of giving and responding. In the reality of the other lies its objectivity, not in its independence of subjective commitment and engagement. To affirm knowledge in response to revelation involves a risk against which one cannot protect oneself by being tentative or hypothetical. One is oneself changed as the relation corrects one's understanding of it, and of the meaning of life in its light.

Our relation to technological knowledge today is analogous. We interact with our environment and it reveals itself to us. What we learn however is always the character of a relationship. What we affirm about it always involves a risk. We operate within basic commitments about the nature of reality which determine both what we explore and the information we find. My point here is that we should do this, frankly and openly. It is our task in trying to come to grips with our technological world to be creatively ideological. It is our business as Christians to use what we have learned abou the interaction of God with human nature and society to project possibilities

for the control and use of technological knowledge and power which correspond both to the realities of Divine judgment on the operations of human sin and Divine promise which in Christ can transform the human situation. In short it is our responsibility to translate the Christian hope into the language of technological analysis, and infuse the latter with Christian hope. The last two points will attempt to illustrate how this might be done. They concern the question of power and the question of discerning the form of what is human.

We have seen how the problem of power has become an insoluble riddle for modern technology, and a dilemma that deepens with each new raising of the power stakes. In Romano Guardini's aphorism, "Man has nearly unlimited power over things, but he does not have power over his own power". One can attribute this fact, and some Christians have done so, to insufficient education in the values appropriate to technologically developed society and the means of realizing them. One can on the other hand maintain that the structure of a self-reinforcing status quo is maintained by those who now hold a near monopoly on technology, so that the way forward is to educate the masses in the means of self-liberation. There are Christians in this camp as well. I would suggest however that a Biblical reflection on power brings up some other perspectives worth considering.

In the first place no power in the Biblical history is without a context in relations between God an man or between men. Man is empowered, as we have seen, by God to have dominion over other forms of life and his environment, but the built-in limit of this power is from the beginning the calling to bring forth the fruits of the earth and to respond to the call of God to fulfil his promise in relation with him. Another way of expressing this is to say that man is called to be holy and to enter into communion with God the Holy Spirit, who brings order out of chaos and gives form to all creation. But divine holiness, being an expression of God's power, becomes a danger to man who attempts to understand the meaning of his life and the character of his power from himself as centre and apart from the relation to God and his neighbour which defines the being into which he was called. God's holiness is not some inscrutable external force. It is the internal limit on human life which gives it form and direction. It is therefore the inexorable judgment on man's use of power in ways untrue to the promise and meaning of this life. Holiness is a way of saying "love" in power terms.

In the second place there are in the New Testament <u>exousiai</u>, usually translated "powers" or "authorities", which, it is recognized, have an inherent drive toward domination and autonomy. Paul warns his followers to put on the whole armor of God to fight against them. He list them as among the forces that try to separate us from the love of Christ. But the same apostle also speaks of these powers as being made subject to Christ, even being created in him and being given a due place in all things by him - ordained by God in spite of themselves for a function in the economy of grace.

In the third place, the ultimate clarification of the meaning and character of power is found in the paradox of the servant in the book of Isaiah who in his suffering will "bring forth justice to the nations and the coastlands shall wait for his law". It is found then in the life, death and resurrection of Jesus Christ who embodied this power. The power of the relation between man and God is the power to make man new, to transform and reconcile him and to subordinate all the superhuman <u>exousiai</u> which are rooted in his nature but have power over him, to their proper humanizing functions.

What does all this mean for technological power today? It is not stretching a Biblical point I believe to say that the various forces of technology that push us around in modern society - the power of mass media, of the various powers of massive private enterprise, the power of computer technology and automation and the like - are modern exousiai. They are rooted in human desires and decisions but they have become powers dominating and sometimes enslaving men while they also tempt them. They are powers created for a good and proper function but have made themselves autonomous over against the relations which should define that function. They are legion and they squabble with each other. They disrupt creation and society but they are unable to organize it into one monolith for good or evil. Like that Biblical personification of Roman exousiai Pontius Pilate they sin in failing to take their due responsibility more than in overusing it, but that makes their power the more arbitrary. They seem to render vain all appeals to reason and any hope of changing the world for the better.

Where then does a Christian, given his faith, take hold? Not, I think, by holding up the mirror of a rational ideal which in fact cannot be realized. This is dualism and has been a temptation for Christians since the days of the Gnostic heresy. It constitutes a way of seeming to save the souls of the idealists while the world remains unchanged. In fact such rational ideals are themselves relational. They are the ideologies of those who project them, and stand in sore need of correction by those whose social experience differs. Ideals of Third World development projected by western economists are an example. So are projections of benevolent control over society in the future by a technological elite.

Nor does the Christian start by hypostatizing a single unified enemy. This gives the Devil too much credit and cuts down the options in the power struggle to the point where despair always threatens to overcome faith. In fact the exousiai, despite themselves, are always being forced to do a few reasonable humane things in the service of God and other man because in fact Christ is lord over them. The struggle to subvert their self-understandi and the autonomous tendencies of their power is always a positive one. It may involve a politics of confrontation but not the ultimate struggle of good with evil.

Christians are called to be witnesses in their use of power to the way in which power in fact is made humane and effective through a relationship of servanthood, and through a transformation of the exerciser of power in and through the relation he establishes by means of it. This may mean, for exampl the projection of and commitment to a long range plan for Third World development with a built-in plan for population control. It may mean then having this plan torn to pieces in the encounter with responsible leaders from the Third World, partly from selfish private motives, partly because a plan, however rational and good-willed, is given a false tone by the relationship of dominance and dependence in which it is executed, and partly because even the most worthy plan by the greatest experts if prepared in Europe or the United States will contain built-in biases and special interests which only dialogues with the African, the Latin American or the Asian can reveal. It may mean, finally, loss of control over the plan itself. It may mean being confronted with the choice of withdrawing from the whole thing or entering an ambiguous relation where the power of witness is our only hope.

I am not trying to prejudge choices in this sketchy hypothesis, but only to make the point that it is a Christian responsibility to leaven the lump of the responsible use of secular technological power by an analysis that does not presuppose control of the whole human process, and that discerns signs of hope in ambiguous situations in ways that will give realistic guidance to secular action out of a lively sense of the reign of Christ.

Finally, what is the form of a truly human life? "Is there," asks Michael Harrington, "a modern substitute for creative misery?" The question will occur to anyone who has lived through the depression and felt the surge of solidarity when the New Deal came to power, or who has experienced the intimate fellowship of common danger and deprivation in wartime. The ideals of socialism and of the labour movement were formed in movements which shared such a solidarity, and nothing is more discouraging to those who have known it than to observe a demoralized contented individualistic working class today, having achieved its relative goals. The rebellion of many young people today is rooted in a perception of this dilemma. But it is only rebellion, without a cause, and often without a discipline. In the light of what technology can do and is doing to meet material needs, what is the direction of humanization and what the style of human life? Have Christians anything to say to the question on the basis of their model of 2000 years ago?

Let me come straight to the point. There is, in the humanity of Jesus Christ, a determination of human nature that undercuts every attempt to conceive of humanity in general or collective terms. Man is, in relation, for a time which has ultimate, eternal significance without ceasing to be time with a beginning and an end. No man can be defined either as an individual or as an instance of a species, race, nation or any other collectivity. It is his relations which give him life, form and direction.

At the same time it is his relations that limit him. This is something that most technological planners, following the humanism shared by liberals and revolutionaries alike, tend to forget. The limit on man's existence does not lie at the limits of his capacities which can be extended indefinitely by technological, and perhaps in the future by biogenetical, means. The limit lies at the centre of his life where the other person confronts him at every turn and asks him to define who he is with relation to her, or she to him, if we are thinking in human terms. It is in this centre that every person has to do with God. This means a continual redefinition of the self in this relation - a dying to self if one likes, in order to find the form of creative interaction. Into this process the control and remolding of the physical world may be drawn. There is no determinate limit to the amount of technology that can be useful here. But the focus of the whole society is basically distorted when the aim of development is taken to be the provision of an endless cafeteria of satisfactions for possible human wants and endless opportunities for self-expression. Culture grows not out of abstract freedom but out of the fabric of human relations where people offer themselves to each other and to God.

This suggests, and with these remarks I will close, some implications for the form of Christian community in a technologically dominated society. It might, first, be a place where serious and important demands are made on people. It might take the place of our disappearing work-ethic oriented around the family or shop by becoming the place where the question of mutual responsibility is seriously asked and where practical opportunities are given to be of genuine

service, even for those not technically trained to do certain jobs. It might try to recapture for the young, the old, the uneducated and the poor, the sense of being needed.

Second, the Christian community might be the place where a new ethos is formed. The placing of new values on forms of service and work now considered extraneous is one example. But ethos-formation might also extend to the discernment of the human consequences of proposed technological changes in the area - highway or mass transportation development for instance, or the effect of zoning on community development, or of factory placement on community life. The possibilities are endless, and the dangers are that human beings will be planned on the drawing boards of possibly benevolent but self-interested exousiai unless some counterforce is constantly in the field, with guiding principles to be sure, but also with a sensitivity to the human interactions that never can quite be planned.

Third, the Christian community just might be the place which takes up the conflicts within the society into itself and confronts them there with the power of God's reconciliation. Part of this dream is already fulfilled. Somewhere in churches in this country and around the world, nearly every group and power is represented. But what about the ecumenical task? What of the serious confrontation of one another in Christ? If we can bend our efforts to helping this take place on every level and in every place, we will create the ferment out of which an ongoing theology for a society in technologocal change, will grow.

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II

Technology and the Future in a Theological Perspective

Prof. Wolf-Dieter Marsch

Most cultures on the soil of Judaism and Christianity have left behind the periods when religion condemned the technological conquest of the world as demonic and glorified nature. We have learned that belief in God, the Maker of heaven and earth, de-divinises this world and commits it to man as the field of his labour: "Fill the earth and subdue it" (Gen: 1.28). This is precisely what we have done - not simply by subjugating the natural creation but, above all, by utilising the earth's resources, its minerals, raw materials and forces. The tempo of this conquest increased so rapidly in the period we know as the "Enlightenment" that men even spoke of an "acceleration of history". From the invention of the steam engine to the earliest railway systems took a century: from the invention of the first data processing machines (anti-aircraft guidance equipment in the Second World War) to the ordinary computers used in every average industrial concern or office took just thirty years. This acceleration has made many Christians uneasy. In the process of subduing the earth, have we not become guilty of blasphemy? Are we not in danger of destroying this world as God's creation? On the whole this suspicion may well be regarded as having been laid to rest, as having been effectively dealt with in our outlook. Biblically and theologically we can see that man enjoys the dignity of being a "co-worker", a "co-operator" with God - a partner in a covenant which does in fact include the technological utilisation of this earth.

Another suspicion has been voiced, however, especially since the Church and Society Conference in Geneva in 1966, a suspicion which rests (though not exclusively) on elements in the Christian faith, namely, that technology implies dominations, that the technologically more powerful party, whether a branch of industry or a nation, exploits the underprivileged. In the crisis-ridden lands of the "Third World" this suspicion of "technocracy" has hardened into a solid reality, the domination of flagrant injustice. There, technological catching up, technological props, are of little or no use at all, since they merely reinforce existing power structures. It is argued, therefore, that Christians must be driven by their faith to become involved in revolutionary political action. From that conference four years ago the call for a "theology of revolution" began to be heard increasingly. For God's sake and for the sake of the dynamic movement of God's history the Christian must commit himself to the breaking down and destruction of these technologically reinforced structures of domination.

In the meanwhile, it has also become clear to many just how ambiguous both the concept and reality of "revolution" really is, and also clear that the decision whether it is possible to proceed in a "revolutionary" way in this place or that and, if so, how, remains a specifically political decision: namely, a balancing of means and ends, an assessment of actual power structures and a question of what comes next. The alternative of either "technocratic"

Christians or "revolutionary" Christians - ie. of Christians who wish to promote God's cause and kingdom on earth in the one way and those who wish to do so in the other - has since become so polarised in discussions that one is almost tempted to speak here of an ideological Either/Or. The consequence is a modern suspicion of technology as being man's misfortune, as involving the destruction of this world as God's creation.

My thesis is that this alternative of either "technocracy" or "revolution" - however plausible it may seem in face of the catastrophic situation in Latin America - does not carry us forward and must therefore be abandoned. I give my reasons briefly. Apart altogether from the fact that once a certain level of automation and overpopulation is reached it is no longer possible simpl to destroy, or even to recreate in a pre-technological or supra-technological form the basic technological structure, it is becoming apparent that this distinction no longer applies in the areas which we are discussing at this conference, in the themes of social and human technology: our world has become technologically plastic - not just in respect of all we are able to do with it as an object external to man, but even in the sense that we can shape and change its subject, man himself, even his biological nature. The evolution of homo faber must be regarded as a function of his technology. Man himself is drawn into a process not yet completed but open to developments of which we are as yet ignorant. As the Bible sees the matter, man is not finished, completed - as "crown of creation", as the personal "image of God", as a subject endowed with freedom in relation to objects; on the contrary, he is drawn into, involved in, the evolutionary world-process which will only be "finished and completed" when world history is consummated - in other words at a point which we can only assume as a hypothesis and a forecast projective: namely, at the eschaton, the consummatio mundi.

So far as I can see, theologians have hardly yet begun to take account of this conclusion that man is himself part of the "technological world" which, as the cooperator Dei, he must himself continue to share in creating. Only Teilhard de Chardin has thought this through in his monumental synthesis of the evolutionary process and creation: God's creating power - operative in the "drift" ("la marche montante" as he calls it) towards the more complex and greater differentiation, towards "spirit", a movement which has become objectified in man himself and which is fulfilled in the "Omega Point" beyond the biosphere and noosphere, when God, so to speak, once again takes back into Himself all His evolutionary forces - the "God of the Upwards and the Forwards" ("Dieu de l'En Haut et de l'En-Avant"), as Teilhard calls Him and whom he finds attested in the Bible in the figure of the "cosmic Christ".

I refer here to Teilhard because the inclusion of man as the being who creates and develops himself by his technology ceases to be a problem for religion only within the framework of Teilhard's "creation in process of eschatological becoming" ("création en devenir eschatologique"). Over a generation ago he prophesied that the human race would, as he put it, "wind itself up" ("s'entoulerait") and therefore move in upon itself and would therefore have to develop new social and human technologies in order to survive.

The differences we are accustomed to see between "communism" and "democracy" had for him already seemed obsolete. He was even able to regard the manipulation of the human species by biological technology as a quite possible, and perhaps even necessary, transitional stage on the way to the "Omega Point". He was able to look far more objectively at a possible necessary manipulation of man (with a view to man's adaptation to changed environmental conditions) than other theologians who, seeing here (in birth control, artificial insemination and even in embryogenesis) a threat to man's "nature", are for ever drawing up rules of prohibition which they have to immediately cancel a few days later.

What are the implications for theologians and churches when we commit ourselves to viewing the problem of technology - or, more precisely, the technological shaping of our environment and of ourselves as part of this environment - in this way? I would like to concentrate on this question by suggesting three related aspects:

1. Reference back to an original and absolutely evident "nature", is becoming increasingly difficult if not impossible. The main traditions of theology have always worked with such a notion: "law of nature", "order of creation", divinely intended "institutions" - as well as the idea of man's "being", of the political, of the state, of relations between men and between nations, etc. This assumption has long been suspect - open to the suspicion of being "ideological", as we say. Suspect because the insistance on certain human structures as in accordance with nature or inherent being could always also reinforce and justify certain structures of political power, as for example is evident in the part played by the bourgeois notion of property in German history and as in the case of biochemical contraceptives a not unimportant part seems to be played by the bourgeois idea of the family.

Reference back to an original and absolutely evident "nature" becomes spiritually and politically dangerous, however, to the extent that we have long known that this "nature" itself has and undergoes a "history"; and that, as God's co-worker, man himself influences this history by his technology. We should not be able to stand here and discuss together if, "contrary to nature" we were not continually improving the chances of our species to survive by producing goods and energy, by medical interventions and now even by biological manipulations. We should long ago have reached the end of the earth's resources had we not, "contrary to nature" enhanced nature's potential, changed and conserved nature. It would be impossible for us to live amid such a richness of communication media, if we were unable, "contrary to nature" to store, transmit and process information as we must do in order to avert the disasters of uniformity. "Nature" long ago became "history" and can only continue as history.

2. But what then is that which in God's sight is the constant and the abiding? What is it that has been exempted from such rapid technological change and gives it a basis and support? We should have learned from the history of theology and of the philosophy of religion over the past two hundred years that

it is not to be sought in the past but in the future, in that which is to come, in the telos of Christian action, in the "for what purpose?" in the "to what end?" in that which must be postulated, that which lies ahead of us in the "open" and "undecided" which is set us as our task. This turning towards the future still seems to many of us a mere passing fashion, if not indeed a sickness: it is, of course, easy even for Christians to misconceive a "theology of hope, of the promise, of the future" as if it means simply insisting constan on a better tomorrow, simply taking refuge from the darkness of the present in the rising sun of the divine promises. What we must realise is this: now that it has become increasingly impossible to locate God in the supernatural or in the suprahistorical, we seek the area of Christian freedom and Christian obedience in the unsettled future. Now that we have realised that God acts through men and that the world as history is a unity. Now that the category of the future has become decisive for us, not in the sense of imagining some kind of future paradise labelled "new society" but in the sense of asking quite simply, "what is the goal of our action" What are we to regard as valuable today and until further notice? What is it we wish to do and to know, to fashion and to inquire into, in our role as God's co-workers? What is the telos for which we programme technological advance? To use the old language, what is the 'supreme good' which seems to us worth striving for Christ's sake?"

Technology alone can never answer these questions. Thinking in terms of "ends and means", the technological mind, knows that given conditions a, b and c in the system 'n', it arrives at the goal 'x'. But whether this goal 'x' is a humane goal, whether the system 'n' is a good system, or whether the conditic a, b and c are true conditions - the technological mind is unable to say. We illustrate this as follows: embryogenesis outside the womb is probably no longer a serious problem technologically, but what technology cannot solve is the problem of the changed family and social attitudes which will result once the roles filled for the thousands of years by the child's mother and father are suspended. How are we to envisage the social training of the child? For what purpose, in what way, by whom - are children to be reared as human beings' What takes the place occupied by the family for centuries and even today as a temporary stage in the process of learning to live?

What I am driving at in this question of the telos, which I see as primar an ethical question, is simply this.

When theology and the churches deal with this question they face a number of temptations:

(a) the temptation to answer the question in terms of their own clerical, particular, national or group interests. It is no accident that our ethical concepts of the "supreme good" are so varied.

(b) the temptation to answer in terms of standard images drawn from the Bible; for then the conflict between partial traditions, time-conditioned factors, as to which is in fact "more biblical".

(c) the temptation to identify this future of the "supreme good" with views of the future imagined by the technological mind; for then Christian thought is preoccupied with futurology and dominated by alien concerns.

Futurology can be a very real help to us today. It can tell us what is possible, probable or improbable in certain conditions. It can establish conditional relationships of the kind, "if 'x', then 'y'". It can simulate and work out possibilities in the greatest number of combinations and variables. It does not, however, dispense us from asking, "what ought to be? What can we desire? For what purpose do we do what we do?" In Christian thought on this ethical question the fundamental question remains: does what we do help God's creation forward? In other words: (a) does it maintain that fundamental reverence for the existence given to the world and man, that non-omnipotence, that creatureliness, that sense of the finitude and limits of human thought and action, joined at the same time with respect for the neighbour who, like God, cannot be represented in images? In other words: (b) does it maintain that humanity of God which dawns upon us in the figure of Christ - critical of all man-made law, open to opportunities of love to the neighbour, ready to suffer and ready to turn about? In other words: (c) does what we do lead the Jews and Gentiles together into one Church - overcoming barriers, continuing the humanising work of the Kingdom of God?

I cannot give more than these three pointers for the Christian in asking about the "supreme good" - conformity with creation, conformity with Christ, conformity with the Spirit. They can only be translated into very different situations in the churches and in our cultures in each concrete case.

3. There is still one further overall pointer to be given. If we are aware of being ourselves part of the world around us produced by technology - subject and object of what we have come to know as the "technological world" - then, as I see it, we must avoid <u>two misunderstandings in the Christian hope for the future</u>, misunderstandings which continue to plague the churches throughout the world. <u>Firstly</u>, a type of eschatology which retreats entirely into the private sphere or into the inner life of the Church - the hope entertained by the individual or the group of being able to keep itself untouched by the world's fate or to survive unharmed despite all the dubious aspects of technological advance. This "unpolitical" eschatology is advanced again and again to preserve Christian certainty about the future from the uncertainties of this world. But our knowledge of our evolutionary cosmos makes such separation impossible. Christian witness or <u>missio</u> can only come to expression (whether in speech or action) as a <u>con</u>tribution to the conversation about the future (common to all) of the <u>world</u>, as <u>co</u>-operation in or even as criticism of that which concerns all. <u>Secondly</u>, however, a type of eschatology which, politically committed, imagines it can assert that a <u>particular</u> concept of the future is binding <u>upon all</u>. Looking at the political history of modern Christendom, we are struck how different in content are the programmes offered to the world as "ultimate", as eschatological, monarchical, capitalistic, socialistic, revolutionary, democratic - and constantly reappearing, elitist, as if to say, "we know what is good for everyone", laying down the standards, prescribing for the world

what it must do. It cannot be denied, unfortunately, that what we call "totalitarian democracy" owes a good deal to the eschatological fervour of Christians.

But, if these two misunderstandings are to be eliminated, how is it to be done? We might expect Christians who going beyond the technological mentality and reasoning in the way already indicated, reflect upon the threefold "supreme good", to pay special heed and to acquire a special sensitivity to what may be called the "dialectic of the technological development" - and this precisely because their questioning goes beyond the question of technological rationality. What I mean is this: we know that this development has never been in a straight line and will not be so in the future. Every new thing, even fresh development brings fresh dangers with it. Liberation from the natural pressures by means of technology brought with it new and henceforward technological pressures. Deliverance from historical or socio-cultural bonds created fresh bonds imposed on us by planning and control. The legal and social freedoms we enjoy are paid for by new forms of dependence upon the market, fashion, advertising, mass media and transport. Every revolutionary deliverance from slavery brought with it new masters who were not infrequently worse than those they replaced. Automation, as we see today in the Third World especially in no way invariably means that life is made easier. It brings new machinery of exploitation, dependence on world markets, the destruction of old ways of life, and with this, the bewilderment, deracination and alienation of many people, terror and exploitation. Biochemical manipulation of the human species instead of making us healthier increases our sickness. The list of these doubtful achievements of technological progress is endless - although no-one can wish we had not made this progress.

Christendom must have a special sensitivity to this dialectic conjunction of success and failure, advance and regression, progress and criticism. It must think of itself as the "pilgrim people of God" as being "on the way", and always mindful of the constant criticism, the judgement, of God. What we used ambiguously to call "original sin" - the amazing fact that partly out of curiosity, partly out of a thirst for knowledge, and partly out of sheer love of adventure, man makes a mess which he cannot put right and cannot simply forget - takes on a remarkable relevance in an age when we are able to shape our existence by technology. We seem already to have "become like gods" - to this every technological achievement bears witness. Political, social, industrial, personal problems can now be tackled by the planning technological mind. But in the process we have not come to "know both good and evil" as the serpent once promised. Conflicts, mistakes, disasters and tyrannies have increased since man claimed control of his own destiny. But at least these failures can be named even if they cannot be removed. The crimes are to be answered for, even if there is often no court to judge them. The distortions, perversions and denials of what God regards as human are to be labelled as such, for we know Christ, in whom we perceive the humanity of God. Mankind has therefore become more inexcusable in his technological achievements. The pictures of the last judgement, as the religious imagination once envisaged it the imaginative reflection of the "final outcome" of man's actions - are being provided today in the laboratories and drawing offices, in the military

planning headquarters and prison cells, in the operating theatres and government offices. What is new in this future which technology makes possible - perhaps lies simply in the fact that men can know what they are doing. To help them to know this should be regarded as one of the Church's most urgent tasks.

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Technology and the Future in a Theological Perspective

Prof. Raymond Panikkar

Technology and the Future in a Theological Perspective is the title of this final part of our Consultation. To do justice to this tremendous topic, I should dedicate a few minutes to each of the three main concepts: theology technology and future.

One of you whom I see here reminded me that at the beginning of year 1960, or about that time, everybody was being asked what do you expect from Vatican II. I had the courage to answer the question in one word: a parable You may expect from me now not a parable but just a story, as the symbol of what I am going to say, and here it is. Imagine a young man with tears in his eyes, and a letter in his hand, complaining: "I have been writing a dail letter to my financée and now she answers that she is going to marry the post man." For some years (or is it centuries?) we have been dealing with the intermediate, with technique, with the technical procedures, with the postman of all times, bringing us news from another world.

When I first made use of this story, I was concerned with speaking about the girl or about the young man, the writer of the letter. Of course that was twenty years ago. Now I would like to speak a little more of the marriag of the young girl with the postman.

What have I to say now about theology especially in view of the great expectations in this Conference: now come the theologians as a kind of climax. I would just like to say three things. (1) It is not for theology to provide the answers. From where has theology the answers? That would be simply a deus ex machina. Theology is also in the making. Theology is also itinerant. Theology is also engaged in the same human adventure in which men as scientists and technologists are all engaged. In this respect theology has no privilege whatsoever. (2) Theology may help clarify the issues, because of its perspective, a holistic perspective, a vision of the whole which is part of the very nature of theology. Theology has a certain freedom and disentanglement, it is not applied science. The theos of theology is not an object, that would be sheer idolatry, this first enemy of theology. Theology has not to defend at all costs any single statement with any other and somehow engage science and reflection. That is apologetics, and it has its justification but it is not precisely theology. So I would defend the statement that there are no theological priorities. (3) It has often been said that theology is always in the clouds. Let theology be momentarily in the clouds, in order to gain perspective on the whole and descend like rain to fortify all things. This is its dimension, the forgotten dimension. Theology has generally this thankless role of reminding us to forget our preoccupation. When everybody agrees upon something, then the theologian comes along to say you have still to recall another element. It goes on alongside scientific and philosophical reflection, gathers and integrates when possible the data and tries precisely to underscore the forgotten dimension. The basis of theology's disentanglement and freedom is that it h no priorities, neither God nor the bible. Even if we accept revealed facts, it all depends on our understanding of these facts or saying it in a more plausible and simple way.

I want to insert here a few theological reflections on this larger subject - technology, and stress three ideas. We have heard that technology gives power to man; it gives power to politics, it gives power to the future not dreamt of before this era of technology. It enhances or endangers the humanum. So the first tremendous problem which has appeared from many angles in this Conference is how to control this power. This is the first theological problem about technology. We have heard of techniques to control the power of technology. Thus we apply another technology to dominate technology. We have become so imbued with and immersed in technology (in order to understand technology and in order also to dominate technology and somehow to master the power technology gives) that we have no more initiative and imagination, but only seek for another technique - the technique of dominating, the technique of controlling technology. Undoubtedly, technology without technology cannot be controlled. We have not only to enter into the computer we have to get out of the computer also something which we can technically master. But the technique of controlling technology evidently does not transcend technology. It is important but it is still only a new technique. This illustrates what I was saying about the function of the theologian. (I add immediately that technology ought also to transform theology.)

Theology has been much accustomed to deal with certain schemes concerning the problem of power - the power which comes from God or the power which somehow has been given to man to create - in one way or another.

I think that precisely this process, this corrosive process of technology also touches and reaches the shores of theology.

This concern of theology for the power which technology gives to man leads us to very serious ethical questions. I have heard in our discussions three main ideas. The one referred to only en passant is that technology somehow dehumanizes man, alienates the human being, is not only a dangerous power but somehow, if not the work of the devil, is ethically speaking on the negative side. This is not a new idea in any religious tradition nor Christendom. Another idea is that technology is good. Technology as such is good, power as such is good - it all depends on its uses. A more sophisticated approach is that technology is ambivalent and everything depends on the use you make of it. This effort to find a middle way is not satisfactory.

Can we say that technology is good or bad? I think that is the same as saying that nature is good or bad. Forests are there, the animals are there; nature is there. Now, in the third part of the 20th century for a great part of the world, we can also say that technology is there. Technology is no longer a tool, no longer a means. Technology is a given fact. It is a datum like the air which we breath yet fear may be polluted through technology. If, for a moment, technology would disappear from the world, I do not think any city could exist more than a few hours or perhaps a week. Many countries would not exist more than a month. You suppress technology today and the world collapses. There is no option at least for the technological world, for the technified world and for the others. There is no option even to destroy technology. Technology is a datum.

The pattern of whether technology is good or bad is an abstraction. It is idealistic thinking. It has not taken into account that technology is a datum. And I would add that the ambivalent approach of technology is

also in my opinion inadequate because it presupposes an obsolete pattern - it presupposes the pattern of mankind, of nature or of the theologically scrupulous man as steward of nature. The theologian knows very well that there is no guardian to undertake stewardship. I should not say here that this suggests to me a kind of capitalistic hang-up though we have democratized this kingship of man. The ethical problems are important but in my opinion not ultimate. No external authority can suppress the vital dynamism of the universe as history, secular and sacred, east and west, proves. No ethical conscience is powerful enough to buffer or to control the wild, the savage forces of nature, the dynamics of history. If we think that we in our generation are better than those before us, we should listen at least to the warning of the psychiatrist, if we do not want to listen to the theologian. The idea that we can control and dominate the dynamism of nature from outside through ethical reasons and projects is, in my opinion, somehow obsolete. We are not the masters and technology is imposed upon us. It is wishful thinking to imagine that we can escape, break or manipulate it.

The relationship between technology and man should be carefully studied to see whether the dichotomy - man - nature, man - machine, or even world - God, each with its own exclusive right - should not be rethought. The relationship between technology and man is neither that of a dichotomy of two factors nor a monolithic block. It is a complex reality. Man, machine and nature form a living organism. The machine is the high bridge between man and nature. It is a piece of man resembling nature but it is also a piece of nature resembling man. The machine is not only a kind of degraded human being - a robot - but also a humanized species of nature. The underlying presupposition which makes it difficult to accept this theory is the individualistic presupposition that we have to think of man always as an individual.

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III

Comments and Reactions by

a. Prof. André Dumas

I have three questions or propositions representing the concerns of theologians as they think about the encounter between scientists and theologians. I shall in this connection refer especially to the papers by Prof. Marsch and Prof. Panikkar.

My first question is a question of theory, of speculation; the second is a question of psychology, of ministry; and the third is a question of methodology.

When scientists and theologians meet each other, and whether they speak of the future, or of the questions of youth, they are confronted by two different points of view. When scientists speak they speak in terms of interpretation, by the word of God. For them God is not the cause, he is the creative word. In putting forward these two positions we are on two different planes. On the one hand, there is the idea that everything has a cause, and on the other hand, there is theology which proclaims the word of God.

I am pleased that Prof. Marsch mentioned Teilhard de Chardin, who tried to be both scientist and theologian. However, personally I do not think that this fundamental question was solved by him. I would like to call attention to a criticism from someone who was unable to attend this Conference, the biologist Jacques Monod, who said, "If I think of the evolution of the world in terms of the principles of thermo-dynamics rather than moving toward hope I am moving toward entropy, that is dissolution". When I read Teilhard de Chardin I hear a Christocentric mystic. My problem is that we must hold to this difficult question between the scientific investigation of the world and the theological understanding of revelation as a basic issue. Teilhard de Chardin always said that it was a question of concordance, not of concordism. But personally I think that the question concerning the origin also concerns the future toward which we are going, and that is why I would like the World Council to continue to maintain the tension between the scientific causal understanding of the world, which Teilhard de Chardin called the tangential energy, and the eschatological revelatory understanding of the world which he called radial energy. Even he had to make use of two terms for cosmic energy, which shows that this old question continues to be a very important issue between faith and science, a question that has not been overcome and on which we must continue to work intellectually.

This leads to the second question, the pastoral or psychological question. To speak of the future does not necessarily imply hope. An assembly of futurologists is not automatically an assembly of men who hope. I believe that follows if you accept the issue in my first question. The difference between the future and hope is that the future is impossible to foretell, while hope is a matter of an uncertain assurance. We are concerned by the future as spectators; some desire to be like the prophet

Ezekiel. We have different estimations of the future but we confront it in a certain impersonal way, we try to diagnose. But in relation to hope we are concerned and implicated, because the future depends on our hope today. It is the difference without doubt between futurology and prophecy. What is remarkable is that the most technologically developed nations of the world are not those where men and communities have the greatest hope. That is an observation which concerns the human, the ethical and the spiritual levels to which I think we should attach considerable importance.

My third and final question is to ask, "What is ethics?" Ethics is not to put on one side techniques and means, and on the other side values and ideals. If ethics consists of bringing about a separation between functioning and existing and the ideal and the search, then ethics divides man and is contrary to that which unifies man. That is how I would formulate the question. I am fearful today that man might be deprived of their being, on the one hand by technological conditioning and on the other hand by the futurological specula tions. Ethics means to help man become himself, and I offer the following definition: ethics is a question first of awareness of the tensions which exist and then the decisions which must be taken. God does not give us a reply but he gives us commandments; it is in that sense that there is an ethics. That is why I find that a conference like ours which hears many things on ecolog biology, demography, urbanisation, etc., must take the risk which is included in the word decision, choosing and establishing priorities and encouraging decision-making in our communities. As long as the co-efficient of decision has not been brought to the fore, we are not at the ethical level, we are simply at the level of diagnosis. That is why I hope that this conference, aided by the men of science and the theologians at the same time, might make a kind of catalogue of decisions which are incarnate in and which correspond to our time and our situation today.

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b. Prof. Harvey Cox

I would like to respond to some of the comments that have been made from the floor and from the Panel to lead the discussion into the next stage. I would like to say a word to Professor Mills' question. It concerns the secular future and the relationship of the Church to an alleged secular future. It may sound surprising to some of you who know me in other capacities, but I do not believe that the future is going to be very secular. It is a misreading of the direction of change, and I think we may even be in for a rather dramatic religious renaissance, both in western countries and certainly in some of the non-western countries. I see evidence among young people in the popularity of certain Hindu and Buddhist religious practices, in the fascination with primitive civilizations, and in the drug culture. They suggest an enormous return to certain kinds of non-rational and affective modes of thought and action and, in some instances, a massive return to some kind of religion. Professor Mills says a secular future is not necessarily bad. I would say that a religious future may not be necessarily good. If another religious renaissance happens, I think one of the first words is which? What should the relationship of the Church be to the issues raised both with reference to technology and non-technological issues where many of these movements have a kind a neo-romantic, anti-technological quality?

I was hoping that when the Bishop said that he wanted to speak Georgian he might continue to speak Georgian, or he might even have favoured us with one of those wonderful Georgian chants. Such acts are needed to dramatize the fact that perhaps one way the Church relates to any kind of society is not by being all that relevant, to refuse to give concrete responses to technological dilemmas expected of us. Perhaps what we should do at certain points in history is to nurture a kind of quaint, strange and even erratic dimension, sometimes expressed as much through the grotesque or strange as through the relevant or concrete. That is not, I would hasten to add, the entire mission of the Church. But perhaps many of us in this room who have laboured hard on theology and social ethics have overlooked the fact that at times the Church can be so in step with its times that no one notices it. To be a little out of step with one's time is to call some attention to the way in which the steps are moving. One of my criticisms of the Church would be that at points we have not been sufficiently out of step with the time. It was suggested that the Church will never be able to dictate to a religious or secular society in the future. I think at that point we should stop and engage in a liturgical hallelujah. In those societies where the Church has been able to dictate, it has generally made a mess of it. One of the gifts of secularization is that we will not be able to dictate. Theology cannot be the queen of the sciences any more unless she be a kind of monarch that reigns but does not rule. But a more pressing issue is the temptation for theologians to think of themselves as one specialization among others. To accept theology as one specialization among others is to accept the whole system of specializations which may be one of the less attractive gifts the Greeks have brought to us in a technological capacity. Will theology be courageous enough not to allow itself to become a specialization - to be a little weird, unpredictable, unclassifiable, a kind of a challenge to our

assumption that all human knowledge can in fact be specialized?

Father de la Chapelle asked a question which was also asked in another way by the young man concerned with the future of the Church and with a whole new kind of society. I do not think we should have too much of an expectation about the W.C.C. Its major influence has been through the stimulation of thinking and ideas. But we may be entering a phase in the history of the Church in which the major innovations will come not from ecumenical conferences (although some may indeed come from there), but from inventive local breakthroughs, where a particular small group at a local level does something different, and creates something of a new marvel which might be emulated in other places. I would like to see, as far as the life of the Church is concerned, a resurrection of the monastic tradition. By monastic I do not mean the foregoing of worldly pleasures. I mean serious communal experimentation in new life style. The monastic movement was reall a varied and interesting divergent series of experiments of how people can live together creatively in community. Perhaps our churches could become more communal, sharing more aspects of life and providing places where quite radical new departures in life style can be tried, even some of those styles described by Margaret Mead in her prophetic writings, having to do with larger families, different kinds of sexual relationships and a simpler life style not as much influenced by the constant simulation of consumer needs. This might be the first kind of building block to the kind of society that Father de la Chapelle hopes for and that I hope for. A society in which we have moved to a kind of new relationship not only with nature but with everything, in which our technology no longer has to be used to fend off a terrifying nature or to control that nature once it has been tamed but in which our relationship to nature and to the rest of the world becomes erotic I mean playful and aesthetic. You start out, if you have ever ridden a hors by being terribly scared of the horse. You then learn to control the horse using some simple technologies like a bridle and a saddle. The real pleasure comes in the next stage of an erotic, playful and challenging relationship between man and horse. The bridle is still there but a new relationship emerges. One does not go back to the pre-technological.

One last point. I would like to describe myself as a rather unapologeti anthropocentric theologian. I do not know how else to do theology except from a human point of view. There may be other ways. That is the only one I know and as a Christian theologian, I fear that we may be in for a period in which we have to do all we can to defend the fact that man is in fact something special. He is one species among others. He is certainly one of the most destructive but his destiny and his creation suggest something special. Therefore some kind of anthropocentric theology, in which man is seen in relation indeed to all the rest of creation but with a special responsibility and place, is a theological task which we cannot afford to forego.

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c. Metropolitan Ilya Shioloshvili

I would like to speak Georgian to you but as you will not understand Georgian I shall choose Russian - although I fear that you will not understand Russian either. But with the help of my Russian interpreter I shall not be as a voice crying in the wilderness.

It has been said about one eminent Georgian psychologist who is also a Bishop that he has put the scientific element into theology and theologized science. And our aim is similar - to find the point of contact between technology and theology. It seems to me that sociologists, technologists, biologists and scientists in general expect a more concrete contribution from us as well as concrete thinking in theological terms on rapidly developing technology and the human society of the future. In other words the Church is called upon to think about the effect of technical change on society; not only to give expression to its judgement on this question but also to collaborate actively in the positive development of technology and science for the future.

The scriptures tell us that man is created in the image of God and is given the power of reasoning. A man's ability to reason is not set any limits by God and therefore its possibilities in the sphere of scientific discovery must always be developing and evolving. Consequently if the Church considers that technological invention and change is a gift from God which contributes to the liberation of man then it cannot reject it; on the contrary it must even welcome it. It must welcome it and support it in every way. We must not forget the following fact either. God has given man not only reason but also free will. Therefore the question comes to this: in which direction will man manifest his will? For good or for evil? Modern technology can give man great good or else it can inflict infinite ill. So the aim of the Church is always to keep apace with contemporary society; and offer its constant guidance in these matters relating to technical discoveries. In relation to various biological experiments as well as experiments in other spheres of science it can warn and deflect, so to speak, the deleterious effects of some experiment, not only from the ethical or the psychological point of view, but also from the theological standpoint - that is to consider whether a given experiment is a sin before God.

I have the impression in various meetings with Christians - western scientists and even some theologians - that they have only a rather small belief. They simply do not believe enough in the possibility of an active influence by the Church: because perhaps the Church in our time finds it difficult to give answers to contemporary problems. As an Orthodox theologian I do not agree with such a view. We would find great treasures in the Church if only we took the trouble to discover them ... the fault is ours. Today I was very, very happy to hear the thought expressed by Professor Hoggatt who said that the Church is the keeper of spiritual values.

One more point is that with technological development society can fall into an accompanying spiritual disease - pride. And it is that state of mind when man places all his hopes in technical and scientific achievements and affirms that all has been achieved by his reason and his mind alone. At this moment man forgets the providential will of God and a man suffering from this spiritual disease falls away from God, loses sight of him and loses what we would call the glory of God in the eschatological sense of this word. Here too the Church cannot stand aside. She must exercize her influence on man and society in order to forestall the onset of this spiritual disease.
I conclude by one sentence. We as Christians are not pessimistic: there is hope for the future - we can look towards the future with hope.

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d. Prof. Keith Bridston

I detect a certain uneasiness about the role of theology in this Conference and perhaps it is justified. But there are certain kinds of things that cannot be done easily. W.C. Field, the American humorist, was once asked how to overcome insomnia, and he said "get more sleep". There seems to be an assumption prevailing here that theology is a rather simpler science than almost any other and that it can be immediately apprehended and clarified and transmitted. But I assure you that theology is also a part of the afflicted world, perhaps afflicted by the present change of conceptualization that science and technology are in part themselves suffering from and which they in part have created. In the papers before us I find a rather strange combination of, on one hand, a certain legitimate modesty about the potentialities of theology to address itself to the existential questions arising out of these particular areas we are considering, and also a kind of a stigma remaining of the the old theological imperialism or arrogance of the past. To take one example of this, on page 2 near the centre of the paragraph (3): "Theology has a creative task which as response to the revelation of God, it is peculiarly qualified to do in a world where systems and technology become aware of their rational limits and ideologies clash with one another." Although I respond to this call, it seems to me clear that theology itself has to be aware of its rational limits, as Harvey Cox and others have suggested. Indeed ideologies also clash with one another, and this is to say that theology is in the same boat with everyone else.

We have to affirm, I think, that the Church must continually seek ways of expressing both the incarnation of Christ in terms of the struggles of this world and the transcendence of God over all our systems. Certainly the transcendence of God is also transcendent over the Church itself and indeed over the Christian faith itself, and that is part of our dilemma, and we become increasingly aware of this. This may be disconcerting for some who are looking for simplistic answers and very clear ethical guidelines, but nevertheless it seems to me a healthy sign that theology is becoming perhaps increasingly aware of the transcendence of God over theology. We have a good biblical text that illuminates that, at least in the ethical realm, where in the Old Testament we read that even our righteousnesses are as filthy rags; meaning that even our ethical systems are, however good, in certain cases overrun and transcended by the glory of God. It seems to me that the task of the theologian, in part certainly though it is pre-eminently true here, because of the rather sad history of theology in this respect, is to listen, to absorb, to try to reconstruct and to reform theology as a science in terms of contemporary models. Now, just one suggestion of the dilemma and the perplexity and complexity of theology in this respect.

Saint Paul writes, "When I was a child I thought as a child. But now is the time to put away childish things." Now, it seems to me that there may be some legitimate calls to theologians to respond which are not responded to adequately. But there are also some illegitimate demands. It is possible that we are in a situation or at a time, and this Conference represents that time, when we have to put away childish things, including theologically childish things. That means a recognition of complexity, depth, breadth and

the difficulty of comprehension and integration. To illustrate this: Theology is not an information system as our friend from Norway seems to think. Theology is itself a system, I happen to be a Professor of Systematic Theology. Most of what passes for Systematic Theology is simply structural theology; it is not dynamic, it does not represent anything that would remotely make contact with what cybernetics would think of as a system. It is rigid, it is classified in boxes and it is incapable of responding creatively to the kind of dynamic questions that are being posed by those representing modern science and modern technology. Now, it seems to me of fundamental importance that the sacro-character of science and technology - I use that word sacro-character because sacred has perhaps too strict a meaning - have to be affirmed with great conviction today. That is, science and technology are dealing with holy things and the instruments of science and technology are absolutely indispensable for us to deal with, not only the present but certainly the future. But, because of some old Docetic and gnostic dualistic hang-ups, we have really written off the world as being somewhere outside of God's realm, we cannot really address ourselves to the problem of the earth or the problems of instrumentation or organization. Because that is earthly and that is inferior. One of the things we have to do in theology - it seems to me as I reflect on this meeting - is go back to the Old Testament. Arthur Koestler has written that in order for creative breakthroughs to happen we must regress to more primitive levels. One of the interesting things about most Western theology is that it has been largely informed by New Testament theology and New Testament biblical resources and not the totality of biblical resources. Take a few examples: "Dust thou art" (Gen. 3;19), is the affirmation of man's earthiness. "Dust thou art, to dust you shall return." Man is an earthly being and Augustine warned us against the angelic fallacy. This is our environment, we have to accept it, it is sacral. We are inescapably tied to it. Secondly, what about techniques? We forget because of some of the rather iconoclastic aspects of the New Testament that the Old Testament affirms with tremendous force how the skills, the crafts, the techniques and the arts glorify God in the building of the temple. The architectural descriptions we have, how the artists, the goldsmiths, all contribute their genius to the glorification of God. It seems that there is an analogue, a model, that we have to translate into modern technological and scientific terms so that in a sense the whole world then glorifies God through its craftsmanship, its technique, its science, and its art, and finally, the fullness of human nature recognized as being a vehicle of God's presence. In the Old Testament we have heroes and figures of redemption that are very human, almost distressingly so. That's one reason why we do not read the Old Testament, it shocks us. We are shocked by Moses and we are shocked by David; they are too human. But the Old Testament could affirm them as prophets and kings. To be a theologian demands a real presence. Otherwise we can neither cope with the past nor the present and certainly not the future.

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IV. A Summary of Post-Conference Press Comments

A. When Science Needs Religion

(Christian Science Monitor, editorial, July 17, 1970)

The churchmen, the religious thinkers of today, should not be surprised to discover that the world of natural science urgently needs them. For that is indeed the case. They are needed to help formulate a better concept of man. They are needed to set guidelines to govern mankind's ever-growing power over nature.

This is the confusion which this newspaper's natural science correspondent drew from a session at Geneva to which the World Council of Churches brought a group of scientists, laymen and theologians to discuss technology and man's future. He found that science and technology "are challenging Christianity as they never have challenged it before". The natural scientists, and in particular the biologists, were at this session virtually pleading with the churches for moral and spiritual guidance.

The guidance was seen to be needed on such issues as genetic manipulation, overpopulation, pollution. For instance, Prof. L. Charles Birch of the University of Sydney, Australia, outlined the oft-reported ways in which biology is developing new methods for manipulating human genetics, perhaps even changing human characteristics. He said it was not a question whether biologists would do this, but how and within what limits.

This leads into considerations of human worth and dignity, Dr. Birch said. Is man more than a biochemical mechanism to be manipulated by some authority or other? What is individual man's responsibility to his fellow beings?

The natural scientists who built the hydrogen bomb would prefer not to unleash other serious problems, unresolved, on the human race. Hence their turning to Christian thinkers for insight. In the past, natural science has undermined church dogma. Now, more humbly, scientists and religionists have begun to explore, with a larger togetherness, the present and future impact of latest scientific and technical discoveries.

The ecologists are asking whether the sense of dominion over nature, which has marked Christian thought, should not be balanced by a new responsibility in the use and stewardship of nature. Others are asking what should be the attitudes toward electrical or chemical methods of brain control, psychological conditioning, and the use of fear techniques.

The scientists at the Geneva meeting indicated that they expected precision thinking, not generalities, from the churchmen. Here, surely, is where the churches can move beyond social protest to pioneer principled attitudes toward scientific advances which have the capacity to profoundly influence mankind's future.

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